Chapter 17

17. HISTORICAL AND CULTURAL RESOURCES

17.1 GENERAL

As a Federal facility, LaRC is required to ensure the protection and proper management of its cultural resources, including historic and prehistoric properties. The Center must survey its properties to determine their significance, nominate eligible properties to the National Register of Historic Places, and consult with the State Historic Preservation Officer (SHPO), and the National Advisory Council on Historic Preservation, if a proposed or ongoing "undertaking" may effect such properties. If a proposed action will destroy or severely damage such a property, records and data must be gathered and maintained which show its original condition.

17.2 REQUIREMENTS

The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321-4347) establishes the Federal policy of protecting important historic, cultural, and natural aspects of our national heritage during Federal project planning. NEPA also obligates Federal agencies to consider the environmental consequences and costs of their projects and programs as part of the planning process.

To ensure that the Center meets the above requirements, coordination between LaRC personnel responsible for historic and cultural preservation and the appropriate regulatory agencies is essential. The Center's NEPA program, which is explained in Chapter 2, requires this coordination. It also requires environmental office concurrence (i.e. signature) on all project environmental reviews such as analyses, assessments, and impact statements. This includes the requirement to ensure historical and archaeological reviews are conducted as part of the NEPA process.

17.3 GOALS AND OBJECTIVES

The goal of LaRC is to protect through preservation, restoration, or rehabilitation, all sites, structures, and objects of historical, architectural, archeological, or cultural significance located on NASA property. In order to realize this broad goal, LaRC has developed the following objectives:

- Establish an historic preservation program integrated with the Center's master plan and other long range maintenance and development schedules.
- Establish an inventory of historic properties on the Center and publish it in the Center's Environmental Resource Document (ERD), available through the EMO.
- Nominate all properties that appear to be eligible for the National Register and publish a list in the ERD.
- Protect known and potential archaeological sites.
- Implement historic preservation projects as an integral part of the Center's maintenance and construction programs.

- Find adaptive uses for historic properties in order to maintain them as usable structures on the Center.
- Conserve historic properties to eliminate damage or destruction due to improper maintenance.
- Include historic properties in the program for the preservation of the overall environmental quality of the Center.

17.4 RESPONSIBILITIES

17.4.1 Capital Investment Planning Office

- Oversee the Center's historical and cultural preservation program.
- Provide input as required to keep the ERD current as to these matters.
- Provide input to the Environmental Management Office (EMO), for environmental analyses, assessments, and environmental impact statements as required.

17.4.2 Environmental Management Office (EMO)

- Oversee the NEPA process and review NEPA actions.
- Prepare and maintain the ERD.
- Assist with the preparation of environmental analyses, assessments, and EIS’s as required.

17.4.3 Facility and Equipment Support Services (FESS)

- Assist with preparation of environmental analyses, assessments, and environmental impact statements as required by projects.

Chapter 18

18. POLLUTION PREVENTION

18.1 GENERAL

Pollution prevention is a multimedia approach to environmental management. It extends to air emissions, wastewater, and solid and hazardous wastes.

The Pollution Prevention Act of 1990 established pollution prevention as the preferred approach to environmental protection and waste management. The Act specifies a hierarchical strategy as follows:

- Pollution should be prevented or reduced at the source whenever feasible;
- Pollution that cannot be prevented should be recycled in an environmentally safe manner whenever feasible;
- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and
- Disposal or other releases into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

Under this strategy, source reduction is defined as any practice that reduces the amount of hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, treatment, or disposal. Source reduction includes equipment or technology changes, process or procedure modifications, reformation or redesign of products, substitution of materials, and improvements in housekeeping, maintenance, training, or inventory control.

18.2 REQUIREMENTS

The Executive Orders described below have been issued to require pollution prevention activities within federal agencies.

- Executive Order 13148 – *Greening the Government Through Leadership in Environmental Management* requires federal agencies to develop and implement written pollution prevention strategies and environmental management systems, and to reduce the use of selected toxic chemicals, hazardous substances and pollutants. In addition, federal agencies must comply with the planning and electronic reporting provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA Toxic Release Inventory (TRI) releases and off-site transfers must be reduced, as well as criteria air pollutants attributed to facility energy. All Class I ozone-depleting substance procurement and use must also be phased out. Agencies are also mandated to purchase environmentally preferable and recycled products.
- Executive Order 13101 – *Greening the Government Through Waste Prevention, Recycling and Procurement* directs federal agencies to implement acquisition programs aimed at encouraging new technologies and building markets for environmentally preferable and recycled products. It also directs federal agencies to set recycling goals.

- NPG 8820.3 – *Pollution Prevention* establishes the framework for NASA's pollution prevention program. This directive sets guidelines for toxic release inventory reporting, source reduction and recycling reporting, emergency planning and notification, material safety data sheets, extremely hazardous substances inventory reporting, NASA facility pollution prevention program planning, recycling, affirmative procurement, procurement of energy efficient computers, procurement of alternative fueled vehicles, and ozone depleting substances.

18.3 CENTER GOALS

NASA Langley Research Center is committed to an active policy of protecting the environment in all Center research and support activities. The Center has the following goals to reduce the quantity and toxicity of generated wastes through pollution prevention:

- Provide a clean and safe environment for our community.
- Ensure a safe and healthy workplace for NASA Langley personnel.
- Comply with all applicable laws and regulations while efficiently accomplishing our mission.
- Reduce future waste disposal liability.
- Reduce waste generation, hazardous material usage, and management costs.

To meet these goals, LaRC will seek out and implement opportunities to reduce or eliminate waste generation through pollution prevention methodologies. There are also other important benefits related to pollution prevention. These include reduced process operation and waste management costs, reduced waste and emissions, and reduced waste toxicity.

When applying pollution prevention methodologies to LaRC activities, source reduction technology is given priority. Where source reduction is infeasible, other pollution prevention methods such as material substitution, reuse, or recycling shall be used. Remaining wastes, for which no pollution prevention option is warranted, shall be treated to decrease volume or toxicity and managed responsibly to minimize effects on human health and the environment.

18.4 RESPONSIBILITIES

Pollution prevention is the responsibility of all LaRC personnel. Specific responsibilities follow:

18.4.1 Environmental Management Office (EMO)

- Understand the requirements of E.O. 13148 and the objectives of the NPG 8820.3.
- Update the LaRC Pollution Prevention Plan annually.
- Prepare and submit the annual pollution prevention progress report to NASA Headquarters.
- Review LaRC specifications and standards and, where possible, recommend reducing the acquisition and use of products containing extremely hazardous substances.

- Prepare metrics to document the Center's pollution prevention activities.
- Conduct pollution prevention opportunity assessments and recommend implementation of projects as appropriate.
- Request funding to support pollution prevention activities.
- Provide pollution prevention training as needed.

18.4.2 Facility Environmental Coordinators

- Understand the requirements of E.O. 13148 and the objectives of the NPG 8820.3.
- Minimize the volume and toxicity of waste generated by their facilities to the extent technically possible and economically feasible.
- Propose operations or projects for pollution prevention opportunity assessments.
- Schedule training to familiarize personnel with pollution prevention practices.
- Participate with the EMO in conducting pollution prevention opportunity assessments.
- Develop and implement pollution prevention projects.
- Provide the EMO with data to evaluate the effectiveness of pollution prevention projects.

18.4.3 Personnel serving as the Heads of Research and Technology Competency Areas, Program Offices or Business Management Offices

- Understand the requirements of E.O. 13148 and the objectives of the NPG 8820.3.
- Support all personnel participating in pollution prevention projects.
- Utilize pollution prevention concepts in operation and management activities.

18.4.4 Office of Logistics Management (OLM)

- Understand the requirements of E.O. 13148 and the objectives of the NPG 8820.3.
- Identify markets for recycled materials.
- Advise the EMO of property disposal and resale requirements.
- Provide the EMO with data to evaluate the effectiveness of pollution prevention projects.

18.4.5 All Personnel

- Understand the requirements of E.O. 13148 and the objectives of the NPG 8820.3.
- Participate in the pollution prevention program.
- Attend pollution prevention training courses at their facilities.

- Propose pollution prevention projects.

- Minimize the volume and toxicity of waste generated by their facilities to the extent technically possible and economically feasible.

Chapter 19

19. HAZARDOUS MATERIALS INVENTORY

19.1 GENERAL

The Center has a web-based Chemical Material Tracking System (CMTS) that assists facility personnel in managing their hazardous materials inventories and provides data to the Environmental Management Office (EMO) for regulatory reporting. Improved record keeping and better management of hazardous materials helps avoid compliance problems, reduce waste generation, and cut costs from raw material purchases and disposal activities. The CMTS can be found on-line at http://osemant1.larc.nasa.gov/cmts/.

19.2 REQUIREMENTS

Two major environmental statutes requiring hazardous material inventory and reporting are the Emergency Planning and Community Right-to-Know Act (EPRCA) and the Clean Air Act. Under EPCRA, the Center must report information related to the types and quantities of chemicals stored on site and any spills, chemical releases or off-site transfers of toxic chemicals (See Chapter 15). Additionally, the Clean Air Act requires the Center to keep a current air emissions inventory for activities conducted at the Center (see Chapter 4). The CMTS provides the pertinent data to generate both the EPCRA reports and air emissions inventory. The CMTS shall be used by Center and contractor personnel to comply with the inventory requirements in both environmental statutes and LAPG 1710.12, "*Potentially Hazardous Materials."*

Material Safety Data Sheets (MSDS) are a key component in the generation of environmental compliance reports. MSDS's for materials currently used at the Center are maintained and available through the CMTS. MSDS's are required for all CMTS inventory items to ensure proper calculations for environmental reporting as well as to have important health and safety information available. In addition, OSHA has requirements for the maintenance and use of MSDS's as they provide important health and safety information.

19.3 RESPONSIBILITIES

This section outlines the roles and responsibilities of Center and contractor personnel in order to maintain chemical inventories. Additional responsibilities for inventory maintenance can be found in LAPG 1710.12.

19.3.1 Environmental Management Office (EMO)

The EMO is the functional proponent of the CMTS and has primary responsibility to update and maintain the CMTS system.

- Provide support, guidance, policies and procedures, training, and assistance to LaRC personnel in implementing the CMTS program.
- Obtain an annual, Center-wide chemical material inventory and submit required regulatory reports.

19.3.2 Personnel serving as the Heads of Research and Technology Competency Areas, Program Offices or Business Management Offices

- Designate and provide support to the FEC and FSH in each facility to manage hazardous material inventories.
- Ensure that facility personnel follow requirements contained in this Chapter and LAPG 1710.12, to include using the electronic Form 44 approval process.

19.3.3 Office of Logistics Management (OLM)

- Provide the following information to the EMO on an annual basis for all materials requiring MSDS's issued from stock. Data shall be in an electronic format readable in Microsoft Excel or Microsoft SQL Server 7.0.

    1. National Stock Number (NSN)
    2. Customer;
    3. Date of issue;
    4. Unit description;
    5. Quantity on-hand, maximum quantity on-hand, and re-order point;
    6. Unit of issue;
    7. Unit conversion code or other description of the unit of issue, (for example 5 gallon can);
    8. For each NSN, provide a sum of total quantity (unit of issue) issued.

- Maintain stock cylinder data within the CMTS Cylinder Module.
- Maintain facility inventory, excluding stock items issued on the Center, in accordance with this Chapter.

19.3.4 Facility Environmental Coordinators (FEC)

- Maintain accurate inventory of hazardous materials using the CMTS. The CMTS database inventory for the facility **must** reconcile with the physical inventory. At a minimum, reconcile the physical inventory with the inventory reported on the CMTS **quarterly** (Mar 31, Jun 30, Sep 31, Dec 31).
- Certify accuracy of chemical inventories. Quarterly Inventory Update Certifications, found through CMTS Inventory Maintenance, must be submitted to EMO to indicate the inventories are accurate. Facilities with no hazardous materials must submit a quarterly No Hazardous Materials Certification, found at http://osemant1.larc.nasa.gov/cmts/instruct/manuals/.
- Ensure that MSDS's *not* in the CMTS are submitted to the EMO within five working days of receipt of the item and that MSDS's are attached to all items in the CMTS inventory.
- Manage the chemical inventory stored or used at the facility in accordance with all applicable health, safety, and environmental regulations.
- Manage the chemical inventory to reduce waste from shelf- life expiration. Where possible, and in accordance with all health and safety requirements, transfer unused or excess chemicals to the Center's Reuse Facility or other facilities where they can be used prior to reaching shelf-life expiration date.

19.3.5 Facility Safety Heads (FSH)

- Ensure that hazardous materials are purchased in accordance with procedures established in LAPG 1710.12, to include using the electronic Form 44 approval process.
- Ensure that facility personnel are trained in proper hazardous material management practices.
- Ensure that a MSDS is obtained for all hazardous materials.
- Assist the FEC in maintaining an accurate inventory of hazardous materials.

19.3.6 Center Personnel and Contractor Personnel Responsibilities

- Ensure that the FEC, FSH, and CMTS inventory manager are notified when hazardous materials are brought into a facility.
- Use the electronic Form 44 approval process, in accordance with LAPG 1710.12, to purchase hazardous materials and for sample products received from vendors. Off-site contractors receiving material from OLM **must** utilize the Form 44 process.
- Assist the FEC with maintaining an accurate inventory of hazardous materials in CMTS, to include ensuring a MSDS is obtained for each hazardous material.

Chapter 20

20. AFFIRMATIVE PROCUREMENT

20.1 GENERAL

Affirmative procurement is the process of purchasing environmentally preferable products. Affirmative procurement guidelines require the government and its contractors to purchase recycled content, environmentally preferable, and biobased products to the maximum extent possible in order stimulate their use. Environmentally preferable products are products and services having a lesser or reduced effect on human health and the environment when compared to competing products or services serving the same purpose. Biobased products are a commercial or industrial product, other than food or feed, which utilizes biological products or renewable domestic agricultural (plant, animal and marine) or forestry materials.

20.2 GOALS AND OBJECTIVES

The NPG 8830.1*, Affirmative Procurement Plan for Environmentally Preferable Products* states NASA's goals for affirmative procurement. NASA Centers shall acquire, in a cost-effective manner, items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, without adversely affecting performance requirements, quality, or safety by doing the following:

- Implement a preference program for the acquisition of items covered by the
- Promote cost-effective waste reduction and recycling of reusable materials.
- Review specifications and amend the specifications, as appropriate, to encourage the use of recovered materials and not require virgin materials.

20.3 REQUIREMENTS

The following are major Federal statutes, Executive Orders, and NASA guidance that promote or require the application of affirmative procurement.

Resource Conservation and Recovery Act (RCRA) – In Section 6002 of RCRA, Congress directed the federal government to promote recycling by increasing its purchases of products containing recovered materials. RCRA requires EPA to designate products that can be made with recovered materials and to recommend practices for buying these products. In addition, RCRA requires NASA to develop an affirmative procurement program to promote the purchase of the EPA designated items and to annually review the effectiveness of the program.

Executive Order 13101 – Greening the Government through Waste Prevention, Recycling and Procurement - Directs federal agencies to implement acquisition programs aimed at encouraging new technologies and building markets for environmentally preferable and recycled products. It also directs federal agencies to set recycling goals.

Executive Order 13134 – Greening the Government through Developing and Promoting Biobased Products and Bioenergy - Extends federal procurement activities related to biobased products and services.

Federal Acquisition Regulation (FAR) Subpart 23.4, Use of Recovered Materials - Incorporates the affirmative procurement requirements into the Federal Acquisition Regulations.

NPG 8830.1, Affirmative Procurement - Establishes the framework for NASA's affirmative procurement program for items with recovered material content. It requires each NASA field installation to develop and implement an affirmative procurement program in conformance with RCRA Section 6002. The policy assigns responsibilities, and implementation and reporting requirements to be followed by each field installation.

20.3 RESPONSIBILITIES

Based on NASA requirements and other regulations, NASA LaRC employees and contractors have the following responsibilities to fulfill pertaining to purchasing items with recycled or recovered material content.

20.3.1 Office of Procurement

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.
- Ensure that the acquisition of products and services covered by applicable EPA guidelines are conducted in accordance with the requirements RCRA, E.O. 13101, the FAR, and NASA.
- Require statements of work or specifications to include: elimination of virgin material requirements, use of recovered materials, reuse of products, life cycle analysis, energy and water efficiency, recyclability; and the use of EPA designated items or other environmentally preferable products. These factors should be considered in acquisition planning for all procurement and in the evaluation and award of contracts, as appropriate.
- Collect and compile the necessary data and information in a timely manner and provide to the Environmental Management Office to facilitate the process of procurement planning for the annual Affirmative Procurement Report and other required reports.
- Provide guidance and facilitate acquisition planning with respect to environmentally preferable goods and services, including those available through Federal sources of supply.
- Assist in any market research necessary to determine the availability of environmentally preferable goods and services.
- Ensure that solicitations and contracts contain the appropriate provisions and FAR clauses to implement Affirmative Procurement (FAR Part 23)
- Review and revise specifications, product descriptions, and standards and commercial item descriptions during the acquisition planning stage to enhance NASA's procurement of recycled and environmentally preferable products.
- Ensure that contracts, grants, and cooperative agreements include provisions that require documents to be printed double-sided on recycled paper meeting or exceeding the standards established in EPA guidelines.

20.3.2 Environmental Management Office (EMO)

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.

- Develop and implement an affirmative procurement awareness program. NASA LaRC shall establish the affirmative procurement program for all designated EPA guideline items purchased. Newly designated items shall be incorporated into the affirmative procurement program within one year from the date EPA designated the new item.
- Advise procurement originators and contracting officers on acquisition strategies for environmentally preferable products and services including updates to the list of EPA's designated items.
- Review and approve Request for Waiver documentation and participate in Life-Cycle Cost and Life-Cycle Analysis (LCC and LCA) activities.
- Compile the Center's Annual Affirmative Procurement Progress Report.
- Provide support, guidance, and assistance to the Center in interpreting and implementing the EPA and applicable Agency guidelines for recovered materials.

20.3.3 Systems Engineering Competency

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.
- Review specifications and amend the specifications, as appropriate, to encourage the use of recovered materials.
- Ensure that construction products are procured with recovered content levels as specified in Part C - Construction Products of the Recovered Materials Advisory Notice.
- Collect and compile the necessary data and information in a timely manner and provide to the EMO to facilitate the process of procurement planning for the annual Affirmative Procurement Report and other required reports.

20.3.4 Office of Logistics Management (OLM)

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.
- Review Stores Stock specification and amend the specifications, as appropriate, to encourage the use of recovered materials.
- Collect and compile the necessary data and information in a timely manner and provide to the EMO to facilitate the process of procurement planning for the annual Affirmative Procurement Report and other required reports.

20.3.5 Contracting Officers

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.
- Provide guidance and facilitate acquisition planning with respect to Life Cycle Cost Analysis and environmentally preferable goods and services. The Life Cycle Cost Analysis should examine a product's environmental and economic effects throughout its lifetime, including raw materials extraction, transportation, manufacturing, use and disposal.
- Ensure solicitations and contracts contain the appropriate provisions and FAR (FAR Part 23, Subpart 23.4) clauses implementing affirmative procurement, including reporting requirements.

- Maintain information in the contract file on the contractor's response to FAR clause 52.223-8 "Estimation of Percentage of Recovered Materials for Designated Items".
- Collect and compile the necessary data and information in a timely manner and provide to the EMO to facilitate the process of procurement planning for the annual Affirmative Procurement Report and other required.
- Modify existing contracts, in consultation with the NASA technical point of contact, which do not have Federal Acquisition Regulations (FAR) clauses implementing Affirmative Procurement. The implementing clauses in the FAR are located at FAR Part 23, Subpart 23.4 – Use of Recovered Materials.

20.3.6 Procurement Originators

- Understand the requirements of E.O. 13101 and the objectives of the NPG 8830.1, to be aware of the EPA designated materials list and the Request for Waiver process.
- Consult early in the procurement process with appropriate parties (e.g., environmental specialists, contract specialists) to facilitate the process of procurement planning, which include LCC and LCA.
- Utilize statements of work or specifications which include elimination of virgin material requirements, reuse of products, use of recovered materials, energy and water efficiency, recyclability, and the use of designated items included in the CPG or other environmentally preferable products or services.
- Prepare Request for Waiver or justification for concurrence signature by the EMO if the guideline item is not available competitively, within a reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price.

Appendix A

A. Glossary of Terms

Categorical Exclusion (CE). "Categorical Exclusion" means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations and for which, therefore, neither an EA or EIS is required.

Clean Air Act of 1970. Requires prevention, control, and abatement of air pollution from stationary and mobile sources (also includes asbestos removal and disposal regulations, and greatly reduces the use of ozone depleting substances.)

Clean Water Act of 1970. Regulates discharge of pollutants into waters of the U.S. from any point source including industrial facilities and sewage treatment plants. Regulates storm water runoff from certain industrial sources. Requires reporting and cleanup of oil and hazardous substance spills in waterways. Protects waterways. Requires a permit to dredge, fill, or disturb wetlands. Requires spill prevention plans for sites that store petroleum products.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1989, amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. Regulates cleanup of abandoned hazardous waste sites. CERCLA also known as “Superfund” regulates releases of hazardous substances into the environment.

Construction of Facilities (CoF). Those activities directed toward construction of new facilities; repair, rehabilitation, and modification of existing facilities; acquisition of related facility equipment; design of facilities projects; and advance planning related to future facilities needs.

Construction of Facilities Project. The consolidation of applicable specific individual types of facility work, including related collateral equipment, which is required to fully reflect all of the needs, generally relating to one facility, which have been or may be generated by the same set of events or circumstances which are required to be accomplished at one time in order to provide for the planned initial operational use of the facility or a discrete portion thereof. Facility projects are subject to the NEPA requirements.

Emergency Planning and Community Right-to Know Act (EPCRA) of 1986. Provides local governments information concerning possible chemical hazards in the community. Requires emergency planning for releases of extremely hazardous substances. Requires facilities to publicly report releases of toxic chemicals into the environment.

Endangered Species Act (ESA) of 1973. Requires that all actions not jeopardize, threaten, destroy, or adversely impact critical habitats or the existence of endangered species.

Environmental Analysis. The analysis of the environmental effects of proposed actions, including alternative proposals. The analyses are carried out from the very earliest of planning studies for the action in question, and are the materials from which the more formal environmental assessments, environmental impact statements, and public record of decisions are made.

Environmental Assessment (EA).

A. A concise public document prepared by a Federal agency. The document serves to:

   1. Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a FONSI.

   2. Aid an agency's compliance with the Act when no EIS is necessary.

3. Facilitate preparation of an EIS when one is necessary.

B. Shall include brief discussions of the need for the proposal, of alternatives as required by Sec. 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. It forms the basis of the decision of whether to prepare a FONSI or a Notice of Intent to Prepare an EIS.

Environmental Impact Statement (EIS). A document that is prepared for an action which may have significant impact on the quality of the human environment or which has the potential for controversy in environmental effects. The primary purpose of an EIS is to serve as a device for use by officials to plan actions and make decisions. It provides information that must be considered throughout the decision process. An EIS is filed with the U. S. EPA and published and distributed widely for public comment.

Environmental Monitoring Report. A report that monitors mitigation measures and other commitments associated with the project decision and changes in the project.

E.O. 13149 (April 21, 2000). Supersedes E.O. 13031. *Greening the Government Through Federal Fleet and Transportation Efficiency*. Mandates the reduction of petroleum fuel consumption, encouraging the use of alternatively fueled vehicles by Federal agencies to substantially reduce toxic and hazardous air pollutants.

E.O. 13148 (April 22, 2000). *Greening the Government Through Leadership in Environmental Management*. This order challenges the Federal government to publicly lead by example through applying source reduction in the management of its facilities and in its acquisition practices. It commits Federal agencies to publicly report toxic wastes and emissions and to reduce toxic releases by 40%, overall, by the end of 2006.

E.O. 13123 (June 3, 1999). Supercedes E.O. 12902 - *Greening the Government Through Efficient Energy Management.* Requires agencies to develop and implement programs to reduce water and energy consumption and increase energy efficiency at their facilities in a variety of ways including using alternative, less-polluting fuels and energy sources instead of petroleum-based products.

E.O. 13101 (September 14, 1998). *Greening the Government Through Recycling, Waste Prevention and Federal Acquisition.* Directs Federal agencies to promote cost-effective waste reduction and recycling activities. Requires all Federal agencies to develop an affirmative procurement program designed to purchase products with recycled content.

Finding of No Significant Impact (FONSI). A document prepared by LaRC staff which presents the reasons an action will not have a significant effect on the human environment and for which an EIS will not be prepared. It is published in the Federal Register and/or coordinated with a State point of contact.

Major Facility Project. New construction in excess of $1,500,000; Repair, Rehabilitation and Modification in excess of $1,500,000, and Land Acquisition and Emergency Repair approved under the provisions of Section 308(b) of the National Aeronautics and Space Act of 1958 (as amended) at any cost. Requires a detailed EA.

Minor Facility Project. New construction in excess of $500,000 and not exceeding $1,500,000; Repair, Rehabilitation, and Modification in excess of $500,000 and not exceeding $1,500,000. Requires a detailed Environmental Analysis.

National Environmental Policy Act (NEPA) of 1969. Mandates Federal agencies to “utilize a systematic, interdisciplinary approach to ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man’s environment.” Requires detailed statements on the potential environmental impacts of major Federal actions to be included in every recommendation or report on proposals to legislation.

Natural Historic Preservation Act (NHPA) of 1966. Requires Federal agencies to consider the effects of their actions (e.g., construction, leasing, and land transactions) on cultural and historic resources.

Noise Control Act of 1972. Establishes noise standards, and regulates noise emissions from commercial products, such as transportation and construction equipment.

Notice of Intent. A notice that an EIS will be prepared and considered. It summarizes issues uncovered in the EA, if one was done. The notice shall briefly:

A. Describe the proposed action and possible alternatives.

B. Describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held.

C. State the name and address of a person within the agency who can answer questions about the proposed action and the EIS.

This notice is required by law to allow interested parties to participate in the EIS development or to review it upon completion.

Pollution Prevention Act of 1990. Mandates a national policy creating a hierarchy of preferred waste management approaches: source reduction, recycling, treatment, and disposal, all to be conducted in an environmentally safe manner.

Research and Development (R&D). Those activities directed towards attaining the objectives of a specific mission, project, or program. All of NASA's aeronautics and space program elements are categorized within the R&D program categories. R&D funds are expended chiefly for contracted research and development and for research grants. Some R&D funds are also expended in support of in-house research (e.g., equipment purchases and other research support, but not civil service salaries).

Record of Decision. (RoD) A document that describes how environmental considerations, and the EIS itself, entered into the decision. It is not published in the Federal register, but made available upon request.

Research and Development Project. A discrete research and development activity, with a scheduled beginning and ending, which normally involves one of the following primary purposes.

A. The design, development, and demonstration of major advanced technology hardware items;

B. The design, construction, and operation of a new launch vehicle (and associated ground support) during its research and development phase; or,

C. The construction and operation of one or more aeronautics or space vehicles (and necessary ground support) in order to accomplish a scientific or technical objective. R&D projects are subject to the decision processes in 14CFR1216.304.

Research and Program Management (R&PM). Those activities directed towards the general support of the NASA institution charged with the conduct of the aeronautics and space program. R&PM funds are expended for the NASA civil service work force (both for performing in-house R&D and for planning, managing, and supporting contractor and grantee R&D), and for other general supporting functions.

Resource Conservation and Recovery Act (RCRA). Establishes guidelines and standards for solid and non-hazardous waste generation, transportation, treatment, storage, and disposal. Requires management of underground storage tanks (UST's) and cleanup of hydrocarbon contamination.

Establishes a national policy to minimize the generation of hazardous waste and the land disposal of hazardous waste by encouraging process substitution, materials recovery, properly conducted recycling and reuse, and treatment. Mandates that hazardous waste generators and treatment, storage, and disposal facilities have a hazardous waste minimization program in place.

Toxic Substances Control Act (TSCA) of 1976. Prohibits or limits the manufacture, process, distribution in commerce, use, or disposal, of a chemical substance. Regulates the management, disposal, and labeling of materials such as asbestos and PCB's.